

Coatings
Corrosion
Fracture and Mechanical Testing
High Temperature Mechanical Properties
Hydrogen Production and Storage Materials
Hydrogen Separation Materials
Irradiation
Materials Validation
Microstructure and Physical Properties
Modeling
Neutron Radiography
Nondestructive Evaluation
Post-irradiation Examination
Synthesis and Processing of Novel Materials
Welding and Joining
X-Ray Radiography

Neutron Radiography

Capabilities/Facilities

Neutron Radiography Reactor (NRAD), Engineering Development Laboratory (EDL), Fuel Manufacturing Facility (FMF), and Hot Fuel Examination Facility (HFEF).

Materials

NRAD: Neutron radiography of irradiated and unirradiated

fuels and materials. EDL:

X-ray radiography of materials with low levels of activity. FMF: X-ray radiography of Category I quantities of nuclear materials.

Scientific/Engineering Issues

Weld integrity, postirradiation examination of experiments, proof of configuration of experiments.

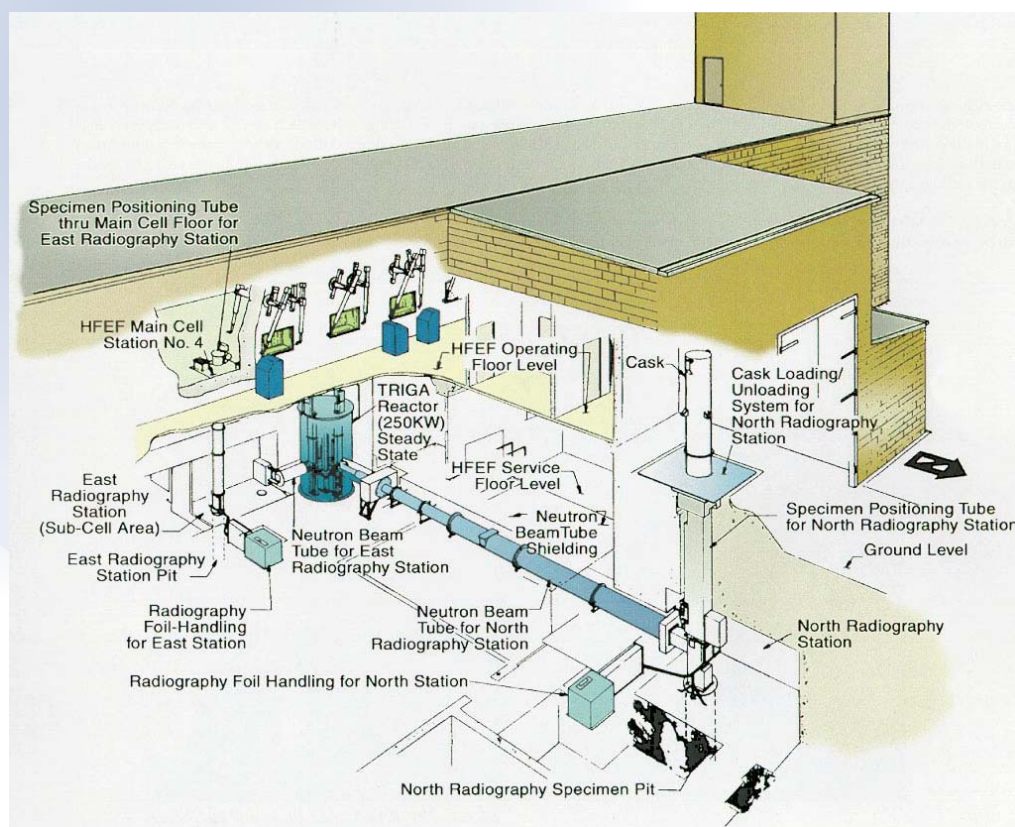
Staff

R. Fielding, S.L. Hayes.

Recent Projects

- Ongoing radiography of fuel specimens and welds.

Continued on back



Hot Fuel Examination Facility with neutron radiograph.

science

Continued from front

Publications

“Fast Neutron Radiography for Composite Materials Evaluation and Testing,”
K.H. Kim, R.T. Klann and B.B. Raju, *Nuclear Instruments & Methods in Physics Research Section A – Accelerators Spectrometers, Detectors, and Associated Equipment*, Vol. 422, p. 929, February 1999.

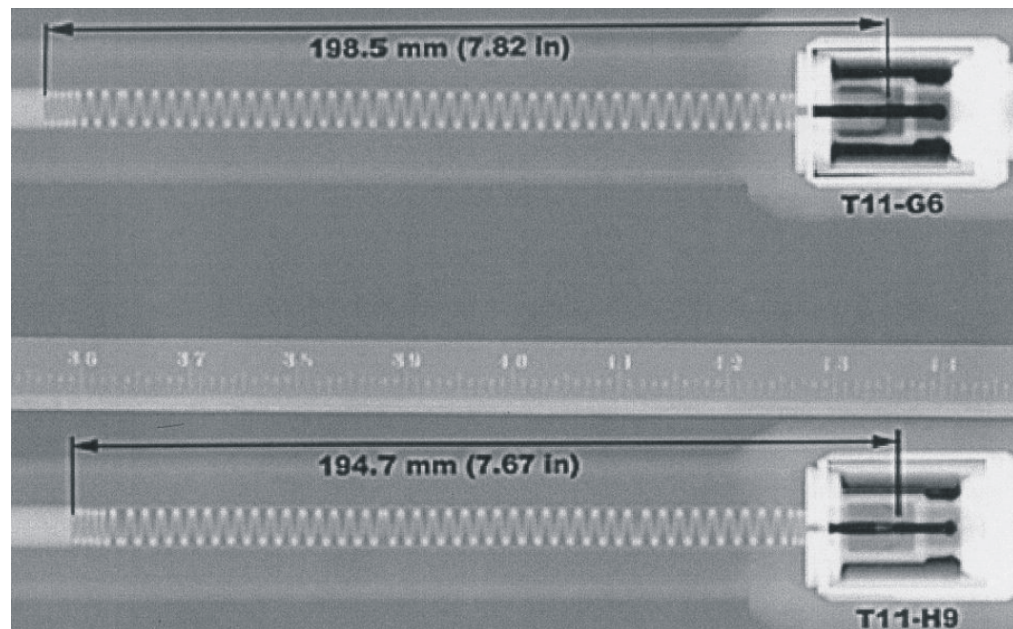
For more information

Richard N. Wright, Ph.D.
(208) 526-6127
Richard.Wright@inl.gov

Douglas C. Crawford, Ph.D.
(208) 533-7456
Douglas.Crawford@inl.gov

www.inl.gov/env-energyscience/materials

INL is a U.S. Department of Energy
national laboratory operated by
Battelle Energy Alliance



Neutron radiograph of PWR fuel rod plena and end fittings.